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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

MAILED

MAR 0 4 2005

Technology Center 2600

Application Number: 09/043,171
Filing Date: March 12, 1998
Appellant(s): MCLAUGHLIN ET AL.

Chris Comuntzis
For Appellant

EXAMINER'S ANSWER

MAILED

MAR 0 4 2005

Technology Center 2600

This is in response to the appeal brief filed on January 4, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The Appellant stated that there are no other appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-11, 18 and 16, 17, 19, 20 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,745,651	OTSUKA et al.	04-1998
4,635,520	MITSUMI	01-1987

Kleijn et al. "Speech Coding and Synthesis" alsenier Sceirce B.V. (1995), pp. 557-559, 581-587, 600-610 (Chapter 10; Nonlinear Processing of Speech by G. Kubin).

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4, 7-11 and 18 are rejected under 35 U.S.C. 102 (e) as being anticipated by Otsuka et al. (US 5,745,651). The rejection is set forth in prior Office Action, Mailed on May 5, 2004 and reproduce below for convenience.

Claims 5, 6, 16 and 17 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Otsuka et al. (US 5,745,651) in view of Kleijn et al. (Speech Coding and Synthesis, Chapter 10). The rejection is set forth in prior Office Action, Mailed on May 5, 2004 and reproduce below for convenience.

Claims 19 and 20 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Mitsumi (US 4,635,520) in view of Otsuka et al. (US 5,745,651). The rejection is set forth in prior Office Action, Mailed on May 5, 2004 and reproduce below for convenience.

As per claim 1, Otsuka teaches, "a method of generating a cyclic sound waveform corresponding to a sequence of substantially similar cycles," comprising the steps of:

"(a) generating a cyclical sound waveform sample" (Abstract, col. 4, line 46 to col. 5, line 4);

"(b) generating a successive cyclical sound waveform sample from said cyclical sound waveform sample and transformation data, wherein said transformation data comprise data defining the evolution of the said cycles in the temporal vicinity of said cyclical sound waveform and the change in shape of said cycles in said temporal vicinity from cycle to cycle" (col. 2, lines 13-54, Fourier transform is performed on the resultant, transformed sample value to provide a pitch waveform, Fig. 15, element S317, where claimed limitation reads on "generate and connect pitch waveform for I th frame);

"(c) designating said successive cyclical sound waveform sample as a cyclical sound waveform sample and repeating (b)" (col. 2, lines 13-54, reads "since a parameter that is acquired at specific sampling frequency is employed to generate pitch waveform for arbitrary sampling frequencies and to link them together, synthesized speech for an arbitrary sampling frequency can be generated by simple method", Fig. 15, element S317 generated pitch wave form for each frame, so step b will be repeated);

"(d) repeating (c) a plurality of times to generate a sequence of said successive cyclical sound waveform samples corresponding to a plurality of said cycles" (col. 2, lines 13-54, Fig. 15, element S316);

"(e) outputting the samples of said sequence to generate a waveform" (col. 2, lines 59-64, a speech waveform can be generated by using a parameter in a frequency range).

As per claim 2, Otsuka teaches, "said waveform comprises voiced speech" (Abstract).

As per claim 3, Otsuka teaches, "in which said transformation data does so by reference to a predetermined reference waveform sequence" (col. 2, lines 35-54, Fourier transform is performed on the resultant, transformed sample value to provide a pitch waveform)

As per claim 4, Otsuka teaches, "in which said reference waveform sequence comprises a stored speech waveform" (col. 4, lines 37-67).

As per claim 7, Otsuka teaches, "in which a given successive waveform sample is derived in accordance with data from a pint on said reference waveform sequence at a position within a said cycle which corresponds to that of said given successive waveform sample, and at least one other point on said reference waveform sequence offset in time therefrom" (col. 7, line 19 to col. 8, line 65).

As per claim 8, Otsuka teaches, "in which said step (b) comprises calculating said transformation data form a set of stored waveform values" (col. 4, lines 37-67).

As per claim 9 and 11, Otsuka teaches, "in which the initial performance of said step (a) to initial synthesis of said waveform comprises a step of section of an initial value which differs from a previous initial value selected on a previous synthesis of said waveform." (col. 8, lines 26-45).

As per claim 10, Otsuka teaches, "in which said step comprises applying a pseudo random number generation algorithm to select said value" (col. 7, lines 45-54).

As per claim 18, it is interpreted and thus rejected for the same reasons set forth in the rejection of claim 1.

Claims 5, 6, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US 5,745,651) in view of Kleijn et al. (Speech Coding and Synthesis).

As per claim 16, Otsuka teaches, "a method of generating a synthetic voiced waveform," said method comprising:

"storing data defining n-dimensional state space representations of voiced speech signals, in which successive voiced speech pitch pulse cycles are superimposed to provide a model of voiced speech dynamics" (col. 4, line 24 to col. 5, line 4);

"selecting a synthesized waveform starting point in said n-dimensional state space representation for a predetermined voiced speech waveform that is offset from said stored data by an offset vector" (col. 7, line 35 to col. 8, line 58);

"selecting successive further synthesized waveform points in said n-dimensional state space representation for said predetermined voiced speech waveform that are also respectively offset from said stored data in dependence jointly upon the preceding point in the synthesized sequence nearest other stored points in state sequence space and an offset vector therefrom" (col. 7, line 35 to col. 8, line 58);

"repeating (b) and (c) for plural voiced speech cycles and outputting the resulting sequence of thus synthesized waveform points to generate a voiced speech waveform" (col. 7, line 35 to col. 8, line 58).

Otsuka does not teach that n being an integer having a value at least three. However, Kleijn teaches the above limitation (Pages 584-586). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide Otsuka with N=3 as taught by Kleijn because Klejin teaches that an N=3 deterministic system can reproduce a naturally sounding voiced speech waveform.

As per claim 17, it is interpreted and thus rejected for the same reasons set forth in the rejection of claim 16.

As per claim 5, Otsuka does not explicitly teach, "in which said steps (a) and (b) comprise generating a plurality of values representing said waveform sample values as a point in a multidimensional space in which corresponding portions of successive said cycles are substantially superposed". However, Kleijn teaches the above limitation (Pages 584-586). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide Otsuka with N=3 as taught by Kleijn because Klejin teaches that an N=3 deterministic system can reproduce a naturally sounding voiced speech waveform.

As per claim 6, Otsuka teaches, "in which said data defining said transformation does so by reference to a predetermined reference waveform sequence and in which said transformation data represents a transformation . . . successive to the first, on said

reference waveform sequence to a corresponding second point on the waveform to be synthesized" (col. 7, line 19 to col. 8, line 65).

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsumi (US 4,635,520) in view of Otsuka et al. (US 5,745,651).

As per claim 19, Mitsumi teaches, "a method of generating a cyclical sound waveform corresponding to a sequence of substantially similar cycles", and method comprising:

"generating a first instantaneous value of the amplitude of a cyclical sound waveform" (col. 3, lines 30-63);

"generating a second instantaneous value of the amplitude of a cyclical sound waveform from said first instantaneous value" (col. 3, lines 30-63);

"designating said second instantaneous value as a first instantaneous value and repeating (b)" (col. 3, lines 37-44);

"repeating (c) a plurality of times to generate a sequence of said instantaneous values corresponding to a plurality of said cycles" (col. 3, lines 37-44);

"outputting the instantaneous values of said sequence to generate a waveform representing a cyclical sound" (col. 3, lines 55-63).

Mitsumi does teach a temporal vicinity of waveform data (Fig. 3), but does not explicitly teach a transformation data. However, Otsuka teaches transformation data (col. 2, lines 46-54, Fourier transformation is performed on the resultant, transformed sample value to provide a pitch waveform). Therefore, it would have been obvious to

one of ordinary skill in the art at the time of the invention to use a transformation to provide a pitch waveform in the invention of Mitsumi because Otsuka teaches that the timber of synthesized speech can be changed without performing a complicated process, such a parameter operation (col. 2, lines 50-54).

Claim 20 is interpreted, thus rejected for the same reasons set forth in the rejection of claim 19.

(11) Response to Argument

The Appellant stated at pages 5-8 of the Brief, "The Examiner has finally rejected claims 1 and 18. Both claims I and 18 include the claim feature of "a cyclical sound waveform sample." A "waveform" is defined in the Federal Standard 1037C, Glossary Of Telecommunications Terms, 1996 as "the representation of a signal as a plot of amplitude versus time." A "sound waveform" is therefore a representation of a sound signal as a plot of amplitude versus time and a "cyclical sound waveform" is therefore a sound waveform "occurring in cycles." Federal Standard 1037C also defines a "signal sample" as "the value of a particular characteristic of a signal at a chosen instant." The US Manual of Patent Examining Procedure, at section 21 1 1.01, states that claim terms are presumed to have the ordinary and customary meanings attributed to them by those of ordinary skill in the art. The MPEP also states at section 2141.03 that the person "having ordinary skill in the art to which the claimed subject matter pertains would, of necessity have the capability of understanding the scientific and engineering principles applicable to the pertinent art.

The claim feature "cyclical sound waveform sample" would therefore be interpreted by one of ordinary skill in the art as the value of the amplitude of a cyclical sound signal at a chosen instant in time. It is also worth pointing out at this stage that this accords with the second of the definitions given by the Examiner in section 9 of the Final Office Action. The word "sample" defined in "The authoritative Dictionary of IEEE Standards and Terms" seventh edition, 2000. Page 1000 as "one or more units of product drawn from a lot, the units of sample being selected and random without regard to their quality" also define sample data as "data in which the information content can be, or is, ascertained only at discrete intervals of time." (Emphasis supplied.) Of the two definitions cited by the Examiner it should be clear that the second definition (underlined above), namely, "data in which the information content can be, or is, ascertained only at discrete interval of time" applies here. In fact this definition is analogous to the definition submitted by Appellant above, i.e., "the value of a particular characteristic of a signal at a chosen instant." The word "discrete", according to the Concise Oxford Dictionary 10th edition, means 'individually separate and distinct." Therefore, even according to the Examiner's definition, a waveform sample is the information associated with the waveform which has been ascertained at an individually separate and distinct interval of time. A person of ordinary skill in the art, having read the description of the present application, and even accepting the definition cited by the Examiner would readily recognize that the cited art does not generate a cylindrical sound waveform sample as required by independent claims 1 and 18.

Indeed, the Examiner has failed to clearly indicate where the claim feature of a "cyclical sound waveform sample", as interpreted above, can be found in Otsuka et al. At times the Examiner seems to suggest that this claim feature is anticipated by the feature in Otsuka of "a parameter of a frame to be processed." However, a parameter of a frame to be processed is extracted from a parameter series. A parameter series is generated for each frame and an example of the data contained within a parameter series is given in Figure 8 of the actual reference. It is clear from this figure that a parameter series comprises three separate parameters all of which apply over one whole frame. In the first instance, since the parameters all apply over one whole frame, they cannot be described as a value of the aptitude of a speech signal at a chosen instant, i.e., as a sample. In the second instance none of the three parameters comprise a cyclical sound waveform. Therefore, in no way can a parameter of a frame to be processed, as found in Otsuka et al., be said to anticipate the claim feature of generating a "cyclical sound waveform sample."

The examiner disagrees with the Appellant's above statement because Otsuka teaches the Appellant's claimed limitation "generating a cyclical sound wave form sample" at column 4, line 34 to column 5, line 4. The examiner notes that the Appellant defined cyclical sound at Specification, page 1, line 21 to page 2, line 9, as "voiced speech is essentially cyclical, comprising a time series of pitch pulses of similar, but not identical, shape". Applicant further describe "waveform sample" at page 7 and 11. Therefore, according to Appellant's this definition "cyclical sound waveform sample" is "voiced speech segment or parameter". The examiner interpreted the "cyclical sound

waveform sample" as "sample, which produces cyclical sound (voiced speech) waveform". There is no contradiction of the definitions about "waveform" and "sample" as provided by Appellant according to the standard. However, according to Webster's II New riverside University Dictionary "waveform" defined as "Mathematical representation of a wave, esp. a graph of deviation at a fixed point versus time". Both Appellant and Otsuka used the term "waveform" and "sample". Therefore, claimed limitation "generating a cyclical sound waveform sample" is reads on Otsuka's "a parameter of a frame that is input by the input section 1, and control data for the utterance speeds and pitches that are input via a user interface are transmitted to a control data memory 2 and stored in the initial register of control data memory 2. For generation of parameter series, a parameter generator 3 reads a parameter series, which is stored in advance from the ROM 105. . . A parameter of a frame that is to be processed is extracted from the parameter series that is generated by the parameter generator 3 and is stored in the initial register of a parameter memory 4. A frame time setter 5 calculates time length Ni fore each frame by employing control data that concern utterance speeds and that are stored in the control data memory 2, and utterance speed coefficient K, which is stored in the parameter memory 4. . ." (column 4, line 34 to column 5, 4). Otsuka also teaches at Figure 2 and 3, how value of amplitude (as a function of power) is plotted for a time instant to generate a pitch waveform (voiced speech waveform). Therefore, Otsuka teaches to generate voiced speech parameter at a chosen instant of a pitch waveform.

Following some case law for the Appellant's convenience:

Office personnel must rely on the applicant's disclosure to properly determine the meaning of the claims. *Markman v. Westview Instruments*, 52 F.3d 967, 980, 34 USPQ2d 1321, 1330 (Fed. Cir.) (*en banc*), *aff 'd*, U.S. , 116 S. Ct. 1384 (1996).

Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).

claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

The Appellant's statement is inconsistent because the Appellant once said the examiner does not clearly indicate the claimed feature of a "cyclical sound wave form sample" again the Appellant said that the examiner seems to suggest that the claim feature is anticipated by the feature in Otsuka of "a parameter of a frame to be processed". The examiner interpreted the claim limitation in view of the specification. It is unclear to the examiner why three parameters des not have a value of the amplitude of a speech signal at a chosen instant? Here three parameters are utterance speed coefficient, pitch scale and synthesis parameter (Fig. 8), where pitch scales are Pitch period point No., power normalization coefficient and waveform generating matrix (Fig. 6). Here power is represented in the waveform by amplitude of a speech signal at a chosen instant (Fig. 2 and 3). It is also unclear why non of the three parameters comprises cyclical sound waveform? These three parameters are for produce a

synthesized speech waveform. The Appellant defined cyclical sound at Specification, page 1, line 21 to page 2, line 9, as "voiced speech is essentially cyclical, comprising a time series of pitch pulses of similar, but not identical, shape". Therefore, Otsuka teaches claimed feature "generating cyclical sound waveform sample".

The applicant argues at pages 8 and 9, of the brief, "moreover, assuming arguendo that Otsuka et al. discloses "generating a cyclical sound waveform sample" where does Otsuka et al. disclose the second element of claims 1 and 18, namely, "generating a successive cyclical sound waveform sample and transformation data, wherein said transformation data comprise data defining the evolution of said cycles in a temporal vicinity of said cyclical sound waveform and the change in shape of said cycles in said temporal vicinity from cycle to cycle". This feature of Appellant's inventions is clearly shown and described at Figures 7-12 and page 18, line 1, through page 14, line 9 of the present application. The Examiner relies on Figure 15, element 5317 of Otsuka et al. which actually refers to a "pitch waveform" and not to a "successive cyclic sound waveform sample" as disclosed and claimed in the present application. Indeed, it is error for the Examiner to suggest that the Otsuka et al. feature of a "pitch waveform" anticipates the claim feature "cyclical sound waveform sample." As will be clear from the above discussion of the term "cyclical sound waveform sample," a pitch waveform cannot be said to be a waveform sample. The Examiner's interpretation of the feature pitch waveform to be a "cyclical sound waveform sample" is inconsistent with what the Examiner has written in section 9 of the Office Action, where

he states that the term pitch waveform "is substantially similar cycles, yet another claim feature of claims 1 and 18. Taking all the above into account, it is submitted that both claims 1 and 18 define novel and inventive subject matter over Otsuka et al. Dependent claims 2 to 11 are all dependent on independent claim 1 and are therefore arguably novel and inventive at least by virtue of that dependency".

The examiner disagrees with the Appellant's above assertion because Otsuka teaches claimed features "generating a successive cyclical sound waveform sample and transformation data, wherein said transformation data comprise data defining the evolution of said cycles in a temporal vicinity of said cyclical sound waveform and the change in shape of said cycles in said temporal vicinity from cycle to cycle" at column 2, lines 13-54, Fourier transform is performed on the resultant, transformed sample value to provide a pitch waveform, Fig. 15, element S317, where claimed limitation reads on "generate and connect pitch waveform for I th frame) stated in the claim rejection. The examiner does not interpreted "pitch waveform" as "cyclical sound waveform sample" in the final rejection section 9, instead the examiner interpreted "cyclical sound waveform sample" with "sample value" which provide "pitch waveform". It is true that pitch waveform is substantially similar cycles as also stated by applicant at Specification, page 1, line 21 to page 2, line 9, as "voiced speech is essentially cyclical, comprising a time series of pitch pulses of similar, but not identical, shape". Therefore, the Appellant's claimed limitations are anticipated by Otsuka et al.. Therefore, the examiner has met his burden with regards to the first criterion in order to establish a case of *prima facie* for anticipation.

The Appellant asserted at pages 9 and 10, "the examiner has improperly rejected claims 5, 6, 16 and 17 as being unpatentable over Otsuka et al. in view of Kleijn et al. Independent claims 16 and 17 include the claim feature of "state space representations of voiced speech signals" and the Examiner contends that Otsuka et al. teaches said claim feature. In a state space representation, different axes of state space consist of waveform values separated by predetermined timed intervals, so that a time in state space is defined by a set of values at times tl , t2, ta (where t2-t1=At1 and ta-t2=At2, which are both constants and may be equal). In the example given on pages 4 and 5 of the present application to produce a state space representation of a time sequence X, a plurality of values (in this case three) of a waveform at spaced apart times Xi-lc, xi, xi+lc are taken and combined to represent a single point si, in a space defined by a corresponding number of axis (in this case three). This is totally different from simply an amplitude versus time plot of a waveform (as shown in Figure 11 of Otsuka et al. and cited by the Examiner), which cannot under any circumstances be said to be even a two dimensional state space representation. Otsuka, therefore, does not teach the claim feature of "state space representations of voiced speech signals" and therefore even if it would have been obvious to combine Otsuka et al. with Kleijn, Appellant's inventions would not have resulted. The Examiner has, therefore, failed to establish a prima facie case of obviousness against claims 16 and 17. As noted above, dependent claims 5 and 6 are believed to patentably define over the cited art by virtue of their dependency on claim 1".

The examiner disagrees with the Appellant's assertion because the examiner has properly rejected claims 5, 6, 16 and 17 as being unpatentable over Otsuka et al. in view of Kleijn et al. see claim rejection and following discussion. According to The Authoritative Dictionary of IEEE standards terms (seventh edition) the term "state space" means "a space which contains the state vectors of a system. Note: the number of state variables in the system determines the dimension of the state space". Here in Otsuka teaches In Figures 6-12, that speed coefficients (vector) and power coefficients (vector) are plotted at a time sequence. Therefore, Figure 11 represents a space, which contains the state vectors (at least two vectors) of a system. Therefore, it would have been obvious to combine Otsuka et al. with Kleijn, the Appellant's inventions would have resulted. Therefore, the examiner has met his burden with regards to the first criterion in order to establish a case of *prima facie* for obviousness.

The appellant argued at pages 11 and 12 of the brief, "the Examiner has improperly rejected claims 19 and 20 under 35 U.S.C. j 103(a) as being unpatentable over Mitsumi in view of Otsuka et al. Mitsumi discloses a device that is operable to smoothly connect together a repetitively output waveform. This is achieved by an interpolation operation in specified sections at the end and start of the waveform that smoothes the amplitude change of the waveform in the interpolation section. The passage cited by the Examiner (column 3, lines 30 to 63) describes how there is a discontinuity between a section at the end of a repeated cycle and a section B at the beginning of a next repeated cycle. In this area of discontinuity a wave shape signal

based on an approximate value obtained by an interpolation operation is used thus smoothly connecting sections A and B. Where in this section of Mitsumi does it disclose "generating a first instantaneous value of the amplitude of a cyclical sound waveform" and subsequently "generating a second instantaneous value of the amplitude of a cyclical sound waveform from said first instantaneous value." Furthermore, and as already mentioned above, Mitsumi discloses a device that is operable to smoothly connect together a repetitively output waveform. This is precisely the sort of device that the present invention seeks to improve upon by eliminating the need to record stored segments of a waveform and outputting them in sequence (see present application at page 1, lines 5 to 20). There will thus be no motivation to modify Mitsumi since there would be no reasonable expectation of success in providing a waveform synthesizer that avoids the unnatural sound that results from repeating a short segment of a recorded sound several times in sequence. The Examiner has, therefore, failed to establish a prima facie case of obviousness against independent claims 19 and 20.

The examiner disagrees with the Appellant's above assertion because Mitsumi teaches claimed features "generating a first instantaneous value of the amplitude of a cyclical sound waveform" and "generating a second instantaneous value of the amplitude of a cyclical sound waveform from said first instantaneous value" at column 3, lines 3-64 and column 6, lines 54-67. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation

to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to modify Mitsumi, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a transformation to provide a pitch waveform in the invention of Mitsumi because Otsuka teaches that the timber of synthesized speech can be changed without performing a complicated process, such a parameter operation (col. 2, lines 50-54).

In response to applicant's argument that there would be no reasonable expectation of success in providing a waveform synthesizer that avoids the unnatural sound that results from repeating a short segment of a recorded sound several times in sequence, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In re Beattie, 24 USPQ2d 1040 (CA FC 1992)

"Board of Patent Appeals and Interferences correctly held that it would be obvious to one having ordinary skill in art to combine prior art references in order to arrive at claimed marking system for reading and playing music on keyboard or stringed instruments, despite absence of single express teaching of marking system which

combines two musical theories of prior art references, since law of obviousness does not require that references be combined for reasons contemplated by inventor, but only looks to whether some motivation or suggestion to combine references is provided by the prior art taken as a whole".

Therefore, the examiner has met his burden with regards to the first criterion in order to establish a case of *prima facie* for obviousness.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Abul K. Azad
(Examiner, Art Unit 2654)

March 3, 2005

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